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NUCLEAR WEAPONS OF MODERN ARMIES

By

V. Glazov

## UNEDITED ROUGH DRAFT TRANSLATION

NUCLEAR WEAPONS OF MODERN ARMIES

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## Nuclear Weapons of Modern Armies

By

Colonel V. Glazov

### 1. For Tactical Purposes

Military technology always was one of the prime factors determining the capabilities of an armed conflict. In our times this situation appears with special force, since modern armies have obtained the unprecedented possibilities of nuclear armament. It does not simply have an influence on the capabilities of an armed conflict, but has radically changed them.

Soviet military doctrine fully studies these changes in military technology and their influence on the character, form and capabilities of conducting a modern war. The most important position of this doctrine consists in the fact that if a world war arises, it will unavoidably assume the character of a nuclear-rocket war. The prime means of damage in such a war will be nuclear armament, and the basic means of delivering nuclear shells to targets will be rockets, above all, intercontinental and global rockets.

Our armies and the navy, due to the daily efforts of the Party, the government and the entire Soviet nation, are fully equipped with nuclear-rocket armament. It composes the basic combat capability of all types of the Armed Forces of the USSR.

The brief characteristics of nuclear weapons will be given in this and follo-

wing articles, which the contemporary armies possess in their armament and could be used for solving strategic and tactical problems, and certain possible outlooks of its development in the future.

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The present relation of forces in the international arena, at which the forces of the world, headed by the Soviet Union, exceed the forces of war, do not give the possibility for trans-oceanic strategy of the "first shock" to accomplish its insidious intentions. But the manufacturers of death do not stop shouting about war. They now relish the possibility of conducting small, limited or, as they still call them, local wars, more than the propagation of "theories" of such wars also leads to an armament race, and promises big profits to monopolies.

The "theories" of local wars are tightly linked with the exploitation of nuclear armament, which could be used in such wars. The first urgent requirements for production of tactical nuclear armament started to be heard in the USA in connection with the war in Korea. Resulting from the experience of battles, the influential military circles announced the extraordinary value of nuclear shells for field, rocket-launching and antiaircraft artillery, and atomic bombs for tactical and sea aviation.

Such nuclear shells, in the opinion of American specialists, are necessary for destroying important tactical targets on the battlefield. They must have limited power, and the means for their application must have a limited range.

To the present time in the USA many samples of tactical nuclear weapons with a TNT equivalent from several tens of kilotons to 50 and 100 kilotons are tested and adopted to armament. A shell for a 280-mm atomic cannon was the first-born of this arsenal. Its tests date from 1953. Its design differs little from a gun-type atomic bomb. Just as in the bomb, subcritical masses of nuclear fuel are located in both ends of the shell, one of which is fired into the other under the influence of the shock wave of a conventional explosive. This provides close contact

of the two halves to one supercritical mass, as a result of causing the explosion.

Subsequently, an atomic shell was also developed for 203.2 caliber howitzers. By themselves, these artillery systems are very heavy and bulky, and their maneuverability extremely limited. They do not satisfy the requirements of modern combat. Therefore, the American command adopted the solution to replace them with lighter, nuclear artillery. It was noted in the press, that at the present time in the USA, work is being carried out on devising nuclear ammunition for the self-propelled 105-mm howitzer and the 90-mm cannon.

As we know, rocket arms obtained a wide development in the ground troops of modern armies. Rocket divisions and units are immediately being entered in their composition and in the reserves of the high command. In the armies of western countries, rocket weapons are subdivided into operational-tactical, tactical, anti-tank and antiaircraft. Guided missiles of operational-tactical designation and self-propelled missiles are included in the composition of army groups and field armies of the USA. There are "Honest John" batteries of unguided missiles of tactical designation in the composition of the divisions, which are being replaced by the facilitated "Little John" systems.

Nuclear missiles (warheads) are developed for all the enumerated systems with power from 50 to 100 kilotons for operational-tactical rockets and from several hundred to several tens of thousands of tons of TNT for tactical rockets. Unified warheads of typical equivalents and designs are being developed for both the strategic rockets and the ground troop rockets, to be used in the various existing and perspective systems.

At the same time, work is being conducted on a significant increase in the power of operational-tactical and tactical rockets with a decrease in their dimensions and weight. Thus, in August of 1958, American specialists accomplished two launchings of "Redstone" missiles with warheads, having megaton charges. With this, Liddel Hart, a prominent British military theorist, writes in the book

"Restraint or Defense", that during the 1958 tests in Nevada, 7 missiles were exploded with a TNT equivalent less than 100 tons; the power of one of them was equal to 36 and the other only 6 tons.

According to reports of the American press, nuclear devices of still smaller power were exploded underground in the period of the last Nevada tests. In the opinion of foreign specialists, these tests indicate, that in the future, possibly, nuclear ammunition will be created with power less than one ton of TNT.

The striving towards small, nuclear weapons and special systems for their application is distinctly evident in Pentagon plans. Small, jet-propelled systems, "Little John" and "Davy Crockett" are already being used in the armament of the U.S. Army. Both of these devices have two versions: heavy and facilitated. The "Little John" missile is unguided with a flight range of 3.5 to 18 km. It is supplied with a gun-powder, rocket engine. The power of its nuclear charge is 1 to 1.5 thousand tons. The last word in the area of devising a tactical nuclear weapon, in the opinion of foreign military specialists, is the small "Davy Crockett" system or the "Atomic Bazooka". The facilitated version of this system is complete as a mortar on a tripod. It can be broken down into three parts, each carried by one soldier. The heavy version, "Davy Crockett", is mounted on a truck or an armored car. At the same time, six warhead complexes and six launching rockets are carried on the vehicle. The system can also be transported in the air, dropped by parachute.

The basic designation of the "Davy Crockett" installation is the destruction of tanks, personnel forces and defensive installations. The firing range of a light-type system is from 2.5 to 8 km, a heavy system more than 8 km. Firing is accomplished with conventional and nuclear charges. The TNT equivalent of the nuclear warhead is diversely estimated in foreign sources. One indicates that it is 50 to 100 tons and others, 100 to 200 tons. The warhead has a tear-drop shape, its diameter in the widest portion is approximately 25 cm, the length is 75 cm, and



a weight of 23 kg. The foreign press emphasizes that with the introduction of the "Davy Crockett" system to troops presents an actual possibility of accomplishing the immediate support of small infantry units, with nuclear weapons.

According to U.S. Army plans for antiaircraft defense of forward troop units on the battlefield, the "Mauler", a small, highly-mobile, ground-to-air, guided rocket weapon system, is being developed. The "Mauler" missile has a jet engine, operating on solid fuel, a control system and a combat section. This type of weapon is related to the "Redstone", a light American ground-to-air system, already mentioned, according to press reports, as being tested. The rocket missile of this system has an infrared homing nose and is launched from a launching ramp, which can be carried by one soldier. It was noted that efforts are being carried out on creating nuclear charges for these systems.

More attention is devoted to weapons for tank warfare in the armies of the NATO countries. In the American Army, the "Ford" Company is working on the improvement of the "Shillelagh", a guided rocket missile. The press indicates that the missile may have a nuclear warhead. The weight of the missile is approximately 20 kg and the caliber 100 mm.

Nuclear, mine-demolition devices are also regarded as tactical nuclear weapons abroad. There are nuclear demolition devices in the armament of the U.S. Army, with a power from 1 to 3 thousand tons. As was reported, they are designated for use in diversion targets: the destruction of industrial enterprises, dams, bridges, important road junctions, the creation of obstacles and can be carried by one soldier. Such devices are supplied, as are conventional demolition devices, with time or chemical fuses, having different delay periods from several hours to several days. They can blow up either by command, transmitted by wire or by radio.

These are some samples of tactical nuclear weapons devised abroad. It follows, however, to note that their development by no means signifies giving up the perfection of strategic nuclear weapons. Conversations on small nuclear weapons

had the need of aggressors in order to present local war, inoffensive, "acceptable", to distract the attention of people from the threat of catastrophic consequences of using nuclear weapons.

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# TRANSLATION

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